

REMARKS

In this paper, claims 1 and 9 are currently amended, and claims 18-24 have been added. After entry of the above amendment, claims 1-24 are pending.

Replacement Figs. 1-11 are attached to the end of this paper. Fig. 1 has been amended (relative to the originally filed drawings) to show the second shift position of second operating body (130), Fig. 2 has been amended to show the plane upon which the views shown Figs. 4 and 5 are taken, and Fig. 3 has been amended to bracket the parts shown in exploded view in order to show their relationship. Figs. 1 and 2 also have been amended to attend to the objections made in the Notice of Draftsperson's Patent Drawing Review attached to the office action.

Claim 1 has been amended to clarify that the pivot axis (P) is inclined relative to the handlebar mounting axis (HB) when viewed horizontally. That is, when viewed as shown in Figs. 2 and 4, and not when viewed vertically as shown in Fig. 3.

New claims 18-24 read on the elected species, Figs. 10 and 11.

Claims 1-17 were rejected under 35 U.S.C. §103(a) as being unpatentable over Shahana. This basis for rejection is respectfully traversed.

As an initial matter, the office action refers to the statement at paragraph [0025] of the Applicant's specification that “[w]hile operating tab 202 pivoted around a pivot axis (P) that was substantially parallel to the handlebar axis (HB) in the above embodiments, the pivot axis (P) could be inclined relative to the handlebar axis (HB) by any degree to accommodate different riding styles.” That statement reflects the revelation of the present invention; it is not an admission of the teachings of the prior art. The present invention is an improvement over the device shown in Shahana. More specifically, it has been discovered that, by having an interface member that is movably mounted relative to the first operating body (the interface member is not one-piece with the first operating body), different operating configurations may be made simply by varying the orientation of the pivot axis as recited in claim 1 and, if necessary, by changing the shape of the interface member. This is possible even without changing the configuration of the other components

described and shown in Figs. 1-7. See, for example, different embodiments shown in Figs. 8-10 and particularly the elected species shown in Figs. 10 and 11. All of those embodiments show rider interfaces that operate dramatically differently without requiring extensive redesign of the remaining components. As a result, it is no longer necessary to make radically different designs to accommodate different hand positions. Such radically different designs are shown by the three references cited at page 13 of the office action.

Turning to the prior art, Shahana discloses a shift control device comprising a mounting member (103) structured to mount the shift control device to a handlebar (101), wherein the mounting member defines a handlebar mounting axis (HB); a control body (170) supported by the mounting member (103) and rotatable about a rotational axis (X) for controlling a shift control cable (104); a first operating body (220); and an interface member (202) movably mounted relative to the first operating body (220). The interface member (202) pivots around a pivot axis (P) for moving the first operating body (220) from a first home position to a first shift position. Pivot axis (P) is parallel to handlebar axis (HB) as clearly shown in Fig. 4. Pivot axis (P) is *not* inclined relative to the handlebar mounting axis (HB) as recited in claim 1.

There seems to be three fundamental misunderstandings about the teachings of Shahana. First, Shahana does *not* teach that the pivot axis (P) *may or may not be inclined* relative to the handlebar mounting axis as stated at page 4, paragraph 5 of the office action, nor is there any basis to say that Shahana teaches a “generic” invention as stated at page 5, paragraph 1 of the office action.

Second, the bottom of page 9 of the office action refers to paragraph [0017] of Shahana as teaching an inclined pivot axis (P). That is not true. Paragraph [0017] states that the path of movement of sliding operating body (220) is substantially parallel to the plane of ratchet teeth (T), but the path may vary by plus or minus thirty degrees. However, that has no effect on the orientation of pivot axis (P) that is associated with interface member (202). It should be emphasized that the cited passage refers to operating body (220), not to interface member (202). If the cited passage referred to interface member (202), then the Examiner’s reasoning would have merit. However, the cited passage only indicates that the orientation of Shahana’s *operating body* (220) can be angled up or down in Figs. 4 and 5 *without changing the configuration of interface member* (202). Even if were

desired to change anything about interface member (202), the logical modification would be simply to move pivot shaft (216) up or down while keeping pivot axis P parallel to the handlebar axis. There is no suggestion, express or implied, to change the orientation of pivot axis P.

Third, page 9, paragraph 3 (not counting the first two lines of the page) the office action refers to paragraph [0016] of Shahana which states that the operating force receiving surface (203) of operating tab (202) is inclined relative to a horizontal axis (H). The office action states that such an orientation requires a reorientation of the axis of pivot shaft (216). That is incorrect. The statement in paragraph [0016] of Shahana that the operating force receiving surface (203) of operating tab (202) is inclined relative to a horizontal axis simply describes what is *actually shown* in Figs. 4 and 5, wherein the axis of pivot shaft (216) is parallel to the handlebar axis. The cited text does not suggest a modification of what is shown in Figs. 4 and 5.

The office action states at page 5, paragraph 2 that Shahana implicitly teaches to rearrange Shahana's pivot axis (P) by reorienting mounting sleeve (103a). The office action further states at page 11, paragraph 1 that such reorientation is upwardly or downwardly. It is assumed that the examiner means rotating mounting sleeve (103a) around the handlebar mounting axis. However, Shahana makes no such implicit teaching, and no matter how mounting sleeve (103a) is rotated, pivot axis (P) will always be parallel to the handlebar mounting axis.

The Examiner quotes the *KSR* case at page 5, paragraph 3 of the office action and alleges that the claimed modification is no more than "the simple substitution of one known element for another or the mere application of a known technique to a piece of prior art ready for improvement." However, as noted above, the known element or technique in Shahana is the possible change of angle of operating body (220), not interface member (202). Changing the orientation of Shahana's pivot shaft (216) to reorient interface member (202) is not a known element or technique.

At page 10, paragraph 4 of the office action, the Examiner alleges that Applicant's rearrangement of the pivot axis (P) provides no more than predictable results since the instant results are identical to the ones obtained by Applicant's embodiment of Figs. 1-7. That is not true,

particularly because the claims do not read on that structure. A comparison of the elected species shown in Figs. 10 and 11, for example, with the embodiment shown in Figs. 1-7 shows that the operation is entirely different from the rider's perspective. In the device shown in Figs. 1-7, a downward sliding motion of the thumb operates interface member (202) and operating body (220). In the elected embodiment shown in Fig. 10, the cyclist may operate interface member (202) and operating body (220) by a rearward and/or lateral sliding motion of the thumb or finger. In the elected embodiment shown in Fig. 11, the cyclist may operate interface member (202) and operating body (220) by a forward and/or lateral sliding motion of the thumb or finger. Furthermore, it certainly was not predictable that such different modes of operation could be accomplished without a major redesign of the shift control device. Compare the radically different designs required by the three references cited at page 13 of the office action.

At page 11 of the office action, the examiner alleges that the Applicant's reliance on *Shackelton, et al. v. J. Kaufman Iron Works, Inc., et al.*, 217 USPQ 98 (2<sup>nd</sup> Cir. 1982) for the proposition that "a change of function of a known element is a benchmark of nonobviousness" is unsupported by substantial evidence. The examiner alleges that there is no change in function because of the similarity of Shahana's Figs. 4-7 and Applicant's Figs. 4-7. However, as noted above, Applicant's claims are not directed to the structure shown in Figs. 4-7. The changes in functions are supported by the evidence set forth at paragraphs [0025]-[0028] of the specification.

At page 13, paragraph 1 of the office action, the Examiner cited Figs. 2 and 3 of USP 6,848,335 to Kawakami; Fig. 1 of USP 6,564,671 to Ose; and Fig. 2 of USP 6,155,132 to Yamane as evidence that it is notoriously well known to reorient the pivot axis of an interface member to accommodate the different hand positions of cyclists. However, none of those references show that. Figs. 2 and 3 of Kawakami do not show an interface member that pivots around a pivot axis (P), wherein pivot axis (P) is inclined relative to a handlebar mounting axis (HB) as required by claim 1. Kawakami discloses an interface member (71, 171) identical to Shahana's interface member (202) wherein the pivot axis of interface member (71, 171) is parallel to the handlebar axis. Ose and Yamane do not even show an interface member that is movably mounted relative to an operating

body. Fig. 1 of Ose discloses interface members (74, 82) that are one-piece with an operating body (86), and Figs. 2-3 of Yamane discloses interface members (61, 81) that are rigidly affixed to corresponding operating bodies (60, 80). At most, Ose and Yamane disclose *operating bodies* that pivot around different pivot axes. Neither Ose nor Yamane disclose or suggest a pivot axis (P) of an *interface member movably mounted to an operating body*, wherein pivot axis (P) is inclined relative to a handlebar mounting axis (HB) as required by claim 1. As noted previously, decoupling the operation of the interface member from the operating body is the breakthrough that allows different operating modes to be accomplished without requiring a wholesale redesign of the entire shift control device.

As for claims 4 and 5, the allegations at page 12, paragraphs 2-3 that Shahana's parallel axes (P) and (HB) can be interpreted to be "substantially perpendicular" and that Shahana's perpendicular axes (P) and (X) can be interpreted to be "substantially parallel" is repugnant to the definitions of "perpendicular" and "parallel." The proffered interpretations are not reasonable.

At page 6, paragraphs 4-5 of the office action, the Examiner relies on "common knowledge in the art to rearrange Shahana's pivot axes P, HB and X" to reject claims 4 and 5. Pursuant to MPEP §2144.03, the Applicant challenges such a conclusory statement and demands evidence to support the allegation, whether applied to claims 4 and 5 or to any other claim. No evidence has been provided that it is common knowledge to rearrange *Shahana's* pivot axes, or that it is known to modify the pivot axis of *any* pivoting interface member that is movably mounted relative to an operating body, especially when that interface member operates as recited in the last element of claim 1.

At page 13, paragraph 1 of the office action, the Examiner states that the basis for the alleged common knowledge is Shahana's Fig. 3. However, Shahana's Fig. 3 shows the pivot axis parallel to the handlebar axis, not inclined relative to the handlebar axis as required by claim 1. Thus, common knowledge is to place the pivot axis (P) parallel to the handlebar axis. The Applicant rejected this common knowledge and inclined pivot axis (P) relative to handlebar axis (P) to produce a change in

function without radically redesigning the remaining components. A change of function of a known element is a benchmark of nonobviousness. *Shackelton, et al. v. J. Kaufman Iron Works, Inc., et al.*, 217 USPQ 98 (2<sup>nd</sup> Cir. 1982)(citing *Sakraida v. Ag Pro Inc.* 425 U.S. 273, 189 USPQ 449 (1976)).

The office action also appears to rely on Kawakami, Ose and Yamane discussed above as evidence of such common knowledge. However, as noted above, neither Kawakami, Ose nor Yamane support such an assertion.

As for claim 7, Shahana's operating force applying member (204) does not extend from the operating force receiving member (203). Both members are closely adjacent to each other for their entire lengths.

As for claim 9, Shahana's lever (202) does not have a substantially L-shape, for the portion at the pivot axis is a simple bump to accommodate the pivot axis. Such a shape cannot reasonably be interpreted to form an L-shape.

As for claim 10, Shahana's operating force applying member (204) is parallel to the operating force receiving member (203) and not substantially perpendicular as recited in the claim.

New claims 18-24 should be patentable for the same reasons noted above. Furthermore, Shahana neither discloses nor suggests a pivot axis (P) that is substantially perpendicular to the handlebar mounting axis and substantially parallel to the rotational axis (X) as recited in claim 18; wherein the operating force receiving member extends away from the pivot axis (P), and wherein the operating force applying member extends away from the operating force receiving member and away from the pivot axis (P) as recited in claim 20 such that the pivot axis (P) is disposed at a junction between the operating force receiving member and the operating force applying member as recited in claim 21; wherein the pivot axis (P) is oriented so that the interface member pivots to move the interface member when the rider applies a rearward motion of a thumb or finger as recited in claim 22; or wherein the pivot axis (P) is oriented so that the interface member pivots to move the interface member when the rider applies a lateral sliding motion of a thumb or finger as recited in claim 24.

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Accordingly, it is believed that the rejection under 35 U.S.C. §103 has been overcome by the foregoing amendment and remarks, and it is submitted that the claims are in condition for allowance. Reconsideration of this application as amended is respectfully requested. Allowance of all claims is earnestly solicited.

Respectfully submitted,



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